

Preliminary Amendment
PCT/EP2003/012337
Attorney Docket Q87665
May 5, 2005

AMENDMENTS TO THE CLAIMS

Please delete the heading “CLAIMS” and insert the heading

WHAT IS CLAIMED IS:

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Original) Twist-beam axle for the rear suspension of a motor vehicle, comprising a central cross-member (11) and a pair of trailing arms (12) fixed to respective side end portions (11a) of the cross-member (11), wherein each trailing arm (12) comprises a pair of front and rear transversely inner half-shells (18, 19) fixed to the respective side end portion (11a) of the cross-member (11) and a transversely outer half-shell (20) securely connected to the transversely inner half-shells (18, 19) so as to form therewith a rigid body having a closed cross-section, characterised in that the transversely inner half-shells (18, 19) are separate components from the cross-member (11) and are securely connected to each other and to the respective side end portions (11a) of the cross-member (11).

2. (Original) Twist-beam axle according to Claim 1, characterised in that each of the transversely inner half-shells (18, 19) comprises a first essentially transverse limb (18a, 19a) which is securely connected to the respective side end portion (11a) of the cross-member (11) and to the other transversely inner half-shell (19, 18) of the same trailing arm (12), and a

second essentially longitudinal limb (18b, 19b), integral with the first (18a, 19a), which is securely connected to the transversely outer half-shell (20) of the trailing arm (12).

3. (Original) Twist-beam axle according to Claim 2, characterised in that the first and second limbs (18a, 18b; 19a, 19b) of the transversely inner half-shells (18, 19) and the transversely outer half-shells (20) have, at least over part of their length, a substantially C-shaped cross-section, the upper and lower horizontal walls of which form respective first joining edges (22, 23; 24, 25; 26, 27), facing two by two, for connection of the front and rear transversely inner half-shells (18, 19) to each other and to the transversely outer half-shell (20).

4. (Original) Twist-beam axle according to Claim 2, characterised in that the first limbs (18a, 19a) of each pair of transversely inner half-shells (18, 19) form, on the transversely inner side, respective second joining edges (21) for connection of the said half-shells to the respective side end portion (11a) of the cross-member (11).

5. (Currently Amended) Twist-beam axle according to ~~any of the preceding claims~~ 1, characterised in that the half-shells (18, 19, 20) of each trailing arm (12) are securely connected to each other by welding and in that the transversely inner half-shells (18, 19) of each trailing arm (12) are securely connected to the respective side end portion (11a) of the cross-member (11) by welding.

6. (Currently Amended) Twist-beam axle according to ~~Claims 3-and-5~~ Claims 3 and 5, characterised in that in the said first facing joining edges (22, 23) for connection of the front and rear transversely inner half-shells (18, 19) to each other are spaced apart by a gap filled by a welding bead.

7. (Currently Amended) Twist-beam axle according to ~~any of the preceding~~ claims 1, characterised in that the cross-member (11) has, in its vertical plane of symmetry, an omega-shaped cross-section.

8. (Original) Twist-beam axle according to Claim 7, characterised in that it comprises also a torsion bar (17) housed inside the cross-member (11) and fixed at its ends to the transversely outer half-shells (20) of the trailing arms (12).

9. (Original) A method for the production of a twist-beam axle (10) for the rear suspension of a motor vehicle, comprising the steps of:

- a) providing a cross-member (11) having side end portions (11a) adapted to engage a pair of trailing arms (12);
- b) providing, for each side end portion (11a) of the cross-member (11), a pair of front and rear transversely inner half-shells (18, 19) adapted to be securely connected to each other and to the side end portion (11a) of the cross-member (11), and a transversely outer half-shell (20) adapted to be securely connected to the pair of transversely inner half-shells (18, 19) so as to form therewith a rigid body of closed cross-section;
- c) securely connecting the pairs of transversely inner half-shells (18, 19) onto the respective side end portions (11a) of the cross-member (11);
- d) securely connecting the transversely outer half-shells (20) onto the respective pairs of transversely inner half-shells (18, 19).

10. (Original) Method according to Claim 9, characterised in that the step b) comprises the operation of forming both the front and rear transversely inner half-shells (18, 19)

in such a way that they comprise each a first essentially transverse limb (18a, 19a) adapted to be securely connected to the respective side end portion (11a) of the cross-member (11) and to the other transversely inner half-shell (19, 18) of the same trailing arm (12), and a second essentially longitudinal limb (18b, 19b), integral with the first (18a, 19a), adapted to be securely connected to the transversely outer half-shell (20) of the trailing arm (12),

wherein the said first and second limbs (18a, 18b; 19a, 19b) of each pair of transversely inner half-shells (18, 19) and each transversely outer half-shell (20) have, at least over part of their length, a substantially C-shaped cross-section, the upper and lower horizontal walls of which form respective first joining edges (22, 23; 24, 25; 26, 27), adapted to be disposed facing two by two for connection of the front and rear transversely inner half-shells (18, 19) to each other and to the transversely outer half-shell (20), and

wherein the first limbs (18a, 19a) of each pair of transversely inner half-shells (18, 19) form, on the transversely inner side, respective second joining edges (21) for connection of the transversely inner half-shells to the respective side end portion (11a) of the cross-member (11).

11. (Original) Method according to Claim 10, characterised in that the steps c) and d) comprise the operation of welding the said first and second joining edges (22, 23; 24, 25; 26, 27; 21).